BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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Gregory Scott	Commissioner

In the Matter of the 2003-2018 Integrated Resource Plan of Southern Minnesota Municipal Power Agency

ISSUE DATE: April 8, 2004

DOCKET NO. ET-9/RP-03-966

ORDER ACCEPTING FILING AND SETTING FORTH REQUIREMENTS FOR NEXT FILING

PROCEDURAL HISTORY

On June 30, 2003, the Southern Minnesota Municipal Power Agency (SMMPA) filed an integrated resource plan (IRP) under Minnesota Statute § 216B.2422 and Minnesota Rules Chapter 7843, as required by the Commission's Order approving SMMPA's last IRP filing.[1] The plan addresses the 15-year period from 2003-2018.

On August 15, 2003, the Minnesota Department of Commerce (the DOC) filed comments indicating that SMMPA's filing was substantially complete.

On November 3, 2003, the DOC filed substantive comments. The comments recommended that the Commission accept SMMPA's IRP and set forth recommendations to improve future filings. No other party filed comments or replied to the DOC's comments.

On February 12, 2004, the matter came before the Commission.

FINDINGS AND CONCLUSIONS

I. Legal Standard

A. Jurisdiction

The Commission has jurisdiction over this matter pursuant to Minnesota Statutes § 216B.2422 and Minnesota Rules parts 7843.0100 to 7843.0600.

[1] In the Matter of the 2000-2015 Integrated Resource Plan of Southern Minnesota Municipal Power Agency, Docket No. ET-9/RP-00-863 ORDER ACCEPTING FILING, SETTING FORTH REQUIREMENTS FOR NEXT FILING AND REQUIRING ADDITIONAL FILING (April 11, 2001).

B. Resource Planning

In an effort to provide the electricity demanded by its customers, an electric utility considers both supply and demand. The utility can supply electricity through a combination of generation and power purchases. The utility can also manage its customers' demand by encouraging customers to conserve electricity, or to shift activities requiring electricity to periods when there is less demand on the electric system.

A resource plan contains a set of demand-side and supply-side resource options that the utility could use to meet the needs of retail customers throughout the forecast period. Minn. Stat. § 216B.2422, subd. 1(d). In an "integrated" resource plan, a utility considers both the supply-side resources and the demand-side resources together on an equivalent basis. Through the process of creating an IRP, a utility can identify the least-expensive reliable combination of supply- and demand-side resources that will meet the utility's requirements, consistent with state and federal law and public policy.

Generally, the resource planning statute and rules direct a utility to file biennial reports on (1) the projected need for electricity in its service areas over the next 15 years; (2) its plans for meeting projected need; (3) the analytical process used to develop its plans for meeting projected need; and (4) the reasons for adopting the specific resource mix proposed to meet the projected need. These requirements are designed to ensure that utilities making resource decisions give adequate consideration to factors whose public policy importance has grown in recent years, such as the environmental and socioeconomic effect of different resource mixes. The process is designed to encourage participation from the public, other regulatory agencies and the Commission.

Originally the Commission's resource planning rules did not apply to municipal utilities, cooperatives, or wholesalers. In 1993, however, the Legislature amended the Public Utilities Act to require any entity serving at least 10,000 customers and capable of generating 100,000 kilowatts of electricity to file a plan.[2] Minn. Stat. § 216B.2422, subd. 1. Consequently SMMPA – with approximately 100,000 retail customers and more than 570 megawatts of generating capacity – is required to file. For this group of utilities, however, Commission orders on resource plans are advisory only. Minn. Stat. § 216B.2422, subd. 2.

II. SMMPA

Eighteen municipal utilities have joined together to form SMMPA to generate and transmit electricity on their behalf. With the exception of Grand Marais on the shores of Lake Superior, all the member utilities are located in east central or southeastern Minnesota. SMMPA's headquarters are in Rochester, Minnesota.

SMMPA provides wholesale power and energy to its members under the terms of power sales contracts. While most of these contracts make SMMPA responsible for providing all of the electricity demanded by a member municipality, the Rochester Public Utility (Rochester) has agreed not to demand more than 216 megawatts (MW) from SMMPA; Rochester is responsible for securing its own supply of electricity beyond that point.

[2] The statute exempts federal power agencies.

III. SMMPA's Resource Plan

A. Resource Planning Approach

SMMPA used a multi-step procedure for developing its IRP. SMMPA performed a demand-side management (DSM) screening analysis to identify cost-effective DSM technologies. At the same time, SMMPA evaluated a number of supply-side resources, focusing on increasing SMMPA's peak capacity. SMMPA then used the EGEAS model[3] to integrate supply-side and demand-side resources in a number of scenarios including various externality costs, capital costs, load forecasts and natural gas fuel prices.

B. Energy and Demand Forecasts

SMMPA begins its planning process by forecasting the amount of electrical energy that its member utilities will require to serve their retail customers, and the amount of capacity it will need to deliver adequate electricity to meet the demand at any time.

In 2002 SMMPA produced about 2.6 million megawatt-hours (MWh) of energy; at the point of maximum consumption ("peak demand"), SMMPA provided 517 MW megawatts (MW) of power. Through the year 2018, SMMPA expects total system energy consumption to grow by roughly 2.4 percent per year. Over this same period, SMMPA expects its peak demand to grow by an average of 2 percent per year. SMMPA also explored how various contingencies such as changing economic and weather factors could increase or decrease this growth. For example, by analyzing the summers of 1992 and 1995, SMMPA estimates that extremely hot weather could increase peak demand by 8%, whereas extremely cool weather might depress demand by 15%, relative to the forecasted amounts.

Noting that SMMPA's forecasting methods are basically the same that the Commission accepted in its last IRP, the DOC recommends that the Commission accept SMMPA's forecasts. But for purposes of developing high- and low-growth scenarios, the DOC recommends that SMMPA update its historical information to include information on any extreme weather for member systems in more recent years.

SMMPA did not oppose the DOC's recommendations.

C. Demand-Side Resources

Electric utilities incur costs for generating or otherwise acquiring electricity, transmitting the electricity (typically over relatively long distances at high voltages) to regional substations, and distributing electricity (typically over relatively short distances at low voltages) to where it is demanded. These costs tend to increase as the demand for electricity increases. Where a utility's cost of controlling the growth of this demand is less than the cost to acquire the capacity to obtain, transmit and distribute electricity, then demand-side management (DSM) programs are warranted. The IRP process ensures that a utility explores DSM options as part of its planning.

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[3] The Electric Generation Expansion Analysis System (EGEAS) is a software package developed under the sponsorship of the Electric Power Research Institute.

DSM poses some unique challenges for SMMPA. DSM analysis explores cost-effective ways to influence the behavior of people using electricity, but SMMPA does not serve any end-use customers directly. SMMPA generally promotes DSM indirectly though helping its member utilities implement DSM programs. SMMPA provides training, promotional materials, and reimbursements for customer incentives and local marketing initiatives for DSM programs. For example, SMMPA might help a member utility offer incentives to encourage a business to use high-efficiency motors, lighting and air-conditioning instead of less-efficient alternatives.

While the DOC recommends approval of SMMPA's current DSM analysis, it also recommends two types of revisions for SMMPA's next IRP filing. First, the DOC notes that during the summers of 2003 to 2010, SMMPA projects that DSM will conserve roughly 0.5 to 0.7 MW of additional capacity each year, but from 2008 to 2014 this growth drops to 0.2 to 0.4 MW. The DOC does not recommend any remedial action for SMMPA's current resource plan but recommends that SMMPA pursue additional DSM projects and technologies for its next plan.

Second, the DOC concludes that some things that SMMPA treats as a demand-side resource should more appropriately be treated as a supply-side resource. Certain SMMPA members have sources of electric generation that are not shared equally with all SMMPA members. These include 1) electricity derived from Western Area Power Administration (WAPA) sources that are allocated exclusively to WAPA members, 2) generators owned by the retail customers of specific SMMPA members, and 3) hydroelectric plants (dams) owned by specific SMMPA members. SMMPA works with its members to employ these sources in the most efficient manner. For each MWh that these sources supply, SMMPA's supply requirements are reduced by a MWh. Consequently, SMMPA treats these generators as a kind of DSM. Similarly, SMMPA treats the cap on Rochester's demand, discussed above, as another kind of DSM for purposes of its IRP.

But the DOC argues that these arrangements do not function like other DSM resources. While these arrangements may limit SMMPA's supply obligations, they do not reduce overall societal demand for electricity or even shift the demand to cheaper periods. For purposes of conducting an integrated analysis of supply-side and demand-side options, therefore, the DOC recommends that SMMPA model these arrangements as supply-side resources in its next IRP filing.

SMMPA did not oppose the DOC's recommendations.

D. Supply-Side Resources

SMMPA states that it derives its supply of electricity from its own electric generators, from supplies within the Mid-Continent Area Power Pool (MAPP), and from transactions with companies beyond MAPP.

When an electric utility has more than enough capacity to serve its customers' demand at the moment, the utility must choose among the sources of supply to meet that demand. The utility considers various factors, including a generator's operating costs, flexibility in changing output, maintenance needs; the obligations of a power purchase contract; and constraints of the transmission grid connecting sources of electricity to the places where the electricity is demanded. Generally, an electric utility will prefer to meet customer demand by using its cheapest source of power first and avoid using more expensive sources until all other sources have been used. The utility may designate its first choice of power supply its "base" source of power; more expensive options may be designated as "intermediate" sources, and high-cost options may be designated as "peaking" because they are deployed only during periods of peak demand.

SMMPA identifies its sources of generation as follows:

SMMPA's EXISTING GENERATION

Base and Intermediate Load Generators	
Sherco 3 (SMMPA's share)	362.4 MW
Austin Northeast	29.4 MW
Owatonna Unit 6	22.5 MW
Windmill Farms Turbine	1.9 MW
SUBTOTAL	415.2 MW
Peak Load Generators	
Diesels	87.8 MW
Steam Units	48.4 MW
Combustion Turbines	20.9 MW
SUBTOTAL	157.1 MW
TOTAL	572.3 MW

Comparing its sources of supply to its forecasted demand (adjusted for demand-side management), SMMPA anticipates that it will need to secure additional power during times of peak demand in 2008 and thereafter.

SMMPA has taken a number of steps to add capacity. SMMPA bought the rights to the output from diesel generators operated by six of its member utilities, estimated to provide 35 MW of peak power by the summer of 2004. Also, Northern States Power Company d/b/a Xcel Energy (Xcel) increased the generating capacity of the Sherco 3 generator, which increased SMMPA's share of that capacity. SMMPA also entered into a marketing alliance with Omaha Public Power District and Tenaska Power Services (OPPD/Tanaska) for buying power – and selling power – when it is cost-effective to do so. But SMMPA has abandoned its plans to refurbish the Owatonna Unit 5 generator, discussed in its last IRP, concluding that the cost would not be worth the benefit.

SMMPA is pursuing opportunities to generate power from the wind. In its last IRP, SMMPA discussed its plans to buy power from a wind turbine being built by Northern Alternative Energy, and its plans to market this electricity through SMMPA's member cities to residential customers. While that project did not come to fruition, SMMPA has secured a substitute source of wind energy from two 950-kilowatt turbines near Fairmont, Minnesota.

While SMMPA has an ongoing process of soliciting bids for new resources, SMMPA has already identified and is currently pursuing three additional sources of supply. First, SMMPA plans to build more wind turbines with the combined capacity to generate an additional 22.8 MW. Second, SMMPA will own a portion of a new gas-powered combined cycle generator, providing an

additional 53 MW of capacity to SMMPA. Finally, SMMPA has contracted to receive part of the output of the Split Rock generator, providing up to 45 MW of new capacity for SMMPA through 2007. But many details remain to be analyzed before SMMPA will commit to any other supply-side resource.

The DOC does not oppose any of the conclusions reached by SMMPA but proposes that SMMPA report on the results of its assessment of future generation needs, including a summary of its resource bidding process and support on how it selects the resource options to implement. Regarding SMMPA's wind generation, the DOC proposes that SMMPA report on the progress of its wind marketing efforts in its next IRP filing. The DOC also proposes that SMMPA report on the number and size of wind generators that are requested to be added to SMMPA's system by the time of its next IRP, along with a discussion of the issues associated with wind resources. Finally, the DOC recommends that SMMPA continue to look for the best alternative available for securing wind power, as the "build and own" strategy may not be appropriate for all projects.

SMMPA did not oppose the DOC's recommendations.

E. Transmission

In addition to generation, an important component of an electric utility's supply is transmission. SMMPA does not own many facilities for transmitting high-voltage electricity from the generators to the distribution stations; instead, SMMPA relies on other utilities' transmission facilities to which it has access under tariffed or contractual arrangements. SMMPA has "Shared Transmission System" agreements with Dairyland Power Cooperative and Great River Energy. In addition, SMMPA obtains transmission services from Xcel pursuant to Xcel's pro forma transmission tariff filed with the Federal Energy Regulatory Commission. And while SMMPA used to have a transmission agreement with Alliant Energy, today SMMPA procures those services from the Midwest Independent System Operator (MISO).

SMMPA does not identify any specific plans for transmission upgrades during the planning period, and the DOC does not recommend any changes.

F. Rate Design

To encourage efficient consumption of electricity, SMMPA has been moving toward charging its member utilities rates for service that more closely match the cost of providing the service. This has allowed member utilities to offer retail rates that are more cost-based. Cost-based rates permit consumers to know the cost that their consumption will impose on society, and they require consumers to bear the cost of their choices, thereby sending appropriate "price signals" about the level of consumption and conservation to pursue.

Consistent with the plans SMMPA announced in its last IRP filing, SMMPA launched a "green pricing" program to permit SMMPA member utilities to offer customers the option of buying wind-powered electricity at a premium. SMMPA charges an additional $0.01 per kWh for wind-powered electricity. This is less than the $0.029 premium SMMPA had anticipated charging, and less than the premiums charged by other Minnesota regulated utilities.

The DOC approves of SMMPA's rate design efforts and recommends that SMMPA continue to refine its rates, and assist member utilities to refine their rates, to better reflect cost. In particular, the DOC recommends setting the wind power premium to reflect the actual cost of wind power, thereby sending appropriate price signals. Finally, in the interest of making future demand and energy forecasts easier and more reliable, the DOC recommends that SMMPA encourage its member utilities to adopt more standardized rate classifications for their retail customers. It would be easier to anticipate how changes to SMMPA's system would affect small industrial customers, for example, if all of SMMPA's member utilities defined "small industrial customer" the same way.

SMMPA did not oppose the DOC's recommendations.

G. Contingency Planning

SMMPA addressed uncertainties related both to the demand for and the supply of electricity. Specifically, SMMPA considered how it would respond to –

- lower- or higher-than-expected load growth,
- the failure of DSM programs to control demand,
- a sudden increase in demand,
- a sudden loss of supply,
- an increase in competition,

and other scenarios. Generally, SMMPA indicates that it could adjust to changes in surplus or deficit with its DSM programs, changes in the dates or sizes of planned capacity additions, and/or power purchases.

The DOC notes SMMPA's alliance with OPPD/Tenaska as evidence that SMMPA is pursuing alliances with outside parties that would be helpful in a changing electricity market. The Department recommends that SMMPA provide information on its future alliances or potential alliances as part of its next IRP filing. SMMPA did not object to this proposal.

Among other scenarios, SMMPA complies with the statutory requirement to develop a "least cost plan for meeting 50 and 75 percent of all new and refurbished capacity needs through a combination of conservation and renewable energy resources."[4] As noted above, SMMPA forecasts the need for new capacity by 2008. SMMPA considered a number of ways to meet the statutory targets and found that the use of ethanol and bio-diesel fuels provided the least-cost alternatives.

The DOC concludes that SMMPA has fulfilled this statutory obligation. The DOC recommends that SMMPA continue to assess future generation needs and consider sources using renewable fuels as part of its impending resource bid process; the DOC also recommends that SMMPA report the results of its assessments and bid processes in its next IRP filing. SMMPA did not object to this proposal.

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[4] Minn. Stat. § 216B.2422.

H. Next Resource Plan

At hearing SMMPA asked the Commission to vary its rules to extend the filing date for SMMPA's next resource plan to July 1, 2006. The DOC had no objection to this proposal.

IV. Commission Analysis and Action

A. The Acceptance of SMMPA's Resource Plan

The Commission agrees with the DOC that the resource plan meets the applicable statutory and regulatory requirements and should be accepted. SMMPA's planning process was reasonable and SMMPA incorporated the forecasting changes recommended in SMMPA's last resource planning docket. The Commission is in agreement with the DOC's conclusion that SMMPA used a reasonable process for integrating supply-side and demand-side resources to arrive at a least-cost plan for meeting its customers' needs. SMMPA reasonably considered a variety of options for meeting resource needs with a combination of DSM and renewable resources, and the filing includes a plan of action to address the deficit in resources arising in 2008 and beyond. Its plan includes both DSM resources and a combination of purchases and SMMPA-owned supply.

The DOC made several suggestions of ways for SMMPA to improve its future resource plan filings. SMMPA did not object to the DOC's suggestions. Having reviewed SMMPA's filing and the DOC's analysis, the Commission will accept the resource plan as filed and direct SMMPA to include the DOC's suggestions in its next IRP filing.

B. Filing Date of SMMPA's Next Resource Plan

Finally, SMMPA asks to extend the filing date for its next IRP.

Assembling a resource plan filing and participating in the administrative review is both time-consuming and costly. While Commission rules provide for plans to be filed every two years,[5] the Commission may vary its rules if it finds that –

- enforcement of the rule would impose an excessive burden upon the applicant or others affected by the rule;
- granting the variance would not adversely affect the public interest; and
- granting the variance would not conflict with standards imposed by law.[6]

Given the advisory nature of the process for municipal utilities and considering the costs and benefits of the process, the Commission finds that a two year interval under the circumstances would impose an unwarranted burden on SMMPA and its members, and that the public interest favors extending the date of SMMPA's next filing. Further, varying the rule will not conflict with Minnesota Statutes § 216B.2422, which requires only that the utilities file "periodically." For these reasons the Commission will vary its rules and direct SMMPA to file its next resource plan by July 1, 2006.

The Commission will so order.

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[5] Minn. Rules part 7843.0300, subp. 2.

[6] Minn. Rules part 7829.3200, subp.1.

ORDER

1. SMMPA's 2003-2018 integrated resource plan is hereby accepted as meeting the requirements and guidelines of the applicable statutes and rules, including SMMPA's planning approach, its energy and peak-demand forecasts, and its proposed action plan.

2. Minnesota Rules part 7843.0300, subpart 2, is varied to make SMMPA's next resource plan due July 1, 2006.

3. SMMPA is advised to do the following:

   - Update its historical information with information from member utilities on any extreme weather in more recent years, for purposes of developing high- and low-growth forecast scenarios.

   - Explore new DSM projects and technologies that can be incorporated into its next IRP.

   - Continue to look for the best alterative available for acquiring wind power, as the "build and own" strategy may not always be appropriate.

   - Continue to move toward rates that are cost-based for SMMPA members, and to ensure that the wind power premium reflects the actual cost of wind power.

   - Continue to assist members in standardizing rate classifications for retail customers.

   - Continue to assess future generation needs and to consider using generation sources using renewable fuels during SMMPA's ongoing bidding process.

5. In its next IRP filing, SMMPA shall do the following:

   - Model member-specific sources of generation, and the cap on Rochester's demand, as supply-side resources rather than demand-side resources.

   - Report on the results of SMMPA's assessment of future generation needs and summarize the results of the resource bidding process, including an explanation of and support for the decision process used to select generation resources.

   - Report on the outcome of the efforts to market wind power through SMMPA's members utilities to residential customers.

   - Report on the number and size of wind generators that are requested to be added to SMMAP's system between this and the next IRP, along with a discussion of issues associated with the wind resources.

   - Provide additional information on alliances and potential alliances with other entities.

6. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Burl W. Haar
Executive Secretary

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